

DV-RA1000HD

High-Definition Audio/DSD Master Recorder



The DV-RA1000HD is an extended version of the DV-RA1000 Master Recorder with an internal hard disk drive and powerful copy functions. It records high-definition audio at up to 192kHz/24bit to DVD+RW or DVD-RW media or hard disk and is able to create standard audio CDs (16-bit/44.1kHz) on CD-R and CD-RW discs. It also features the DSD format, which is the basis for the audiophile Super Audio CD (SACD), as an available recording format. With the DSD method, audio is being directly recorded as a high-resolution, uncompressed digital signal to reproduce the original analogue waveform in excellent quality.

The DV-RA1000HD's copy functions enable users to copy audio files from CD/DVD±RW to the hard disk and vice versa. For archiving purposes, audio data can also be written to DVD-R and DVD+R media. The UDF 1.5 format for DVDs ensures compatibility with computer drives. Like the DV-RA1000, the DV-RA1000HD features professional inputs and outputs including AES/EBU, SDIF-3, RS-232C, USB 2.0 and a computer keyboard connector for text input. User-definable function keys, a large, backlit LC display, Pitch Control (±6%), headphones output and a host of other playback and recording functions make the DV-RA1000HD a versatile world-class recorder.

Main Features

- High-quality stereo recording at up to 192kHz/24-bit or DSD format
- Records audio data directly to internal Hard Disk Drive
- Records Broadcast Wave and DSDIFF files to DVD±RW media (computer-readable UDF 1.5 disk format)
- Records directly to CD-R/RW media (standard CD-DA format)
- Copies audio files between optical discs and the Hard Disk Drive
- Copies audio data from HDD to DVD±R for archiving purposes
- DVD+RW recordings fully compatible with DV-RA1000 and vice-versa
- Multiband compression and 3-band EQ for master processing
- Fade in/out and editing functions
- USB 2.0 port
- Balanced XLR and unbalanced RCA I/O
- Balanced AES/EBU inputs and outputs
- SDIF-3 DSD I/O for external conversion and processing of DSD audio
- Dedicated input level soft control
- Adjustable maximum output level
- ±6% pitch control
- Word Sync In, Out, Thru
- Wired remote control and
- RS-232C serial port
- PS/2 keyboard connector
- User-definable function keys
- Large, backlit LC display
- Power-on Play feature
- Auto track increment
- Various playback modes including auto cue, auto ready and A/B play
- Headphone output

Applications

- Master Recording
- Mastering
- Live Recording
- Sound Installations

Specifications

Analogue inputs and outputs	
Balanced inputs	3-pin XLR female x 2 (1: GND, 2: Hot, 3: Cold)
Input impedance	>10 kOhm @ 1kHz
Nominal input level	+6 dBu (at max. +15 dBu) +4 dBu (at all other levels)
Maximum input level	+15dBu, +18dBu, +20dBu, +22dBu, +24dBu (switchable)
Unbalanced inputs	Unbalanced RCA pin jacks x 2
Input impedance	>10 kOhm @ 1kHz
Nominal input level	-10dBV

Maximum input level	+6dBV
Balanced outputs	3-pin XLR male x 2 (1: GND, 2: Hot, 3: Cold)
Output impedance	220 Ohm
Nominal output level	+6 dBu (at max. +15 dBu) +4 dBu (at all other levels)
Maximum output level	+15dBu, +18dBu, +20dBu, +22dBu, +24dBu (switchable)
Unbalanced outputs	Unbalanced RCA pin jacks x 2
Output impedance	220 Ohm
Nominal output level	-10dBV
Maximum output level	+6dBV
Phones output (stereo)	6.3-mm stereo jack (T = L, R = R, S = GND) x 1
Max output power	80 mW + 80 mW (30 Ohm)

Digital inputs and outputs

PCM inputs (XLR)	3-pin XLR female x 2 (1: GND, 2: Hot, 3: Cold)
Signal type	IEC-60958-4, AES-3-1992
Input frequencies (kHz)	44.1/48, 88.2/96 (double-speed or double-wire), 176.4/192 (double-speed + double-wire) all $\pm 6\%$
Data format	16-bit (44.1kHz, CD-DA), 24-bit (PCM recording to DVD \pm RW/HD)
Input impedance	110 Ohm $\pm 20\%$
Nominal input level	2-7Vpp
Minimum signal level	200mVpp
Intrinsic jitter	<0.025UI (4ns @ 48kHz)
PCM inputs (RCA)	RCA (pin) jack x 1
Signal type	IEC-60958-3
Input frequencies (kHz)	44.1/48, 88.2/96 (double-speed), all $\pm 6\%$
Data format	16-bit (44.1kHz, CD-DA), 24-bit (44.1kHz/48kHz, 88.2/96kHz to DVD \pm RW/HD)
Input impedance	75 Ohm $\pm 20\%$
Nominal input level	0.5Vp-p
Minimum signal level	0.2Vp-p
Intrinsic jitter	<0.025UI (4 ns @ 48kHz)
DSD inputs (BNC)	BNC connectors x 2
Signal type	SDIF-3 format / DSD-Raw
Signal level	2-5V (equivalent to 5V TTL)
Input impedance	75 Ohm, $\pm 10\%$
Clock synchronization	Must be synchronized to 44.1kHz at WORD SYNC IN or use internal clock at 44.1kHz
PCM outputs (XLR)	3-pin XLR male x 2 (1: GND, 2: Hot, 3: Cold)
Signal type	IEC-60958-4, AES-3-1992
Output frequencies (kHz)	44.1/48, 88.2/96 (double-speed or double-wire) 176.4/192 (double-speed + double-wire) all $\pm 6\%$
Data format	16-bit (44.1kHz, CD-DA), 24-bit (PCM recording to DVD \pm RW/HD)
Output impedance	110 Ohm $\pm 20\%$
Nominal output level	2-5Vpp
Intrinsic jitter	<0.025UI (4 ns @ 48kHz)
PCM outputs (RCA)	RCA (pin) jack x 1
Signal type	IEC60958-3
Output frequencies (kHz)	44.1/48, 88.2/96 (double-speed), all $\pm 6\%$
Data format	16-bit (44.1kHz, CD-DA), 24-bit (44.1kHz/48kHz, 88.2/96kHz to DVD \pm RW/HD)
Output impedance	75 Ohm $\pm 20\%$
Nominal output level	0.5Vpp (typical)
Intrinsic jitter	<0.025UI (4 ns @ 48kHz)
DSD outputs (BNC)	BNC connectors x 2
Signal type	SDIF-3 format / DSD-Raw
Signal level	2-5 V (equivalent to 5V TTL)
Output impedance	10 Ohm
Clock synchronization	Must be synchronized to 44.1kHz at WORD SYNC IN or use internal clock

Other inputs and outputs

WORD SYNC IN	BNC
Input voltage	5V TTL equivalent
Input impedance	75 Ohm $\pm 10\%$, with THRU automatically engaged
WORD SYNC OUT	BNC
Input voltage	5V TTL equivalent
Input impedance	<10 Ohm
Sampling frequencies (kHz)	44.1, 48, 88.2, 96, 176.4, 192 (PCM) / 44.1 (DSD)
WORD SYNC THRU	BNC
Output voltage	5V TTL equivalent

Output impedance	<10 Ohm
USB 2.0	USB 2.0 Hi-speed Female B-type connector for connection to personal computer
CONTROL I/O (serial) connector	D-sub, 9-pin female
Control protocol	TASCAM optical disc control protocol
Communication protocol	RS-232C
REMOTE IN (from RC-RA1000)	2.5-mm stereo mini-jack
KEYBOARD	Standard PS/2 mini-DIN connector
Compatibility	101-key (US) keyboard or 106-key (Japanese) PS/2 keyboard

Audio performance

These figures all measure analog-to-analog performance.

Frequency response, All modes	20 Hz – 20kHz (± 0.5 dB)
Fs = 88.2/96kHz	40kHz –1dB (± 1 dB)
Fs = 176.4/192kHz	70kHz –3dB (+1dB/-2dB)
DSD mode	50kHz –3dB (± 1 dB)
Total Harmonic Distortion (inputs at maximum level)	
PCM, DSD	<0.004 % (f = 1kHz, AES-17 LPF)
Signal-to-noise ratio (typical)	
ADC	110dB(A) (AES-17 LPF, DVD recording)
DAC	120dB(A) (AES-17 LPF, DVD recording)
Crosstalk	>97dB (f = 1kHz, AES-17 LPF, DVD \pm RW/HDD recording)
Click noise	<0dB = –16dBFS
Difference between channel levels	<1.0dB, 1kHz, 0dBFS

Physical and other specifications

Voltage requirements	
Japan/USA/Canada	100–120 VAC, 50/60 Hz
U.K./Europe	220–240 VAC, 50 Hz
Australia	240 VAC, 50 Hz
General export	120/230 VAC, 60 Hz
Power consumption	34 W
Dimensions (W x H x D)	483mm x 95mm x 357mm
Weight	6.8 kg (excluding remote control unit)
Operating temperature	5 °C to 35 °C

Design and specifications subject to change without notice.

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